

PAMAL Broadcasting, LTD  
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Beacon, NY 12508

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
445 12th street, SW  
Washington, DC 20445

Re: MM Docket 99-325

February 8, 2002

Dear Mr. Caton

I am writing on behalf of Pamal Broadcasting, Ltd. in response to the Commission's request for comments on NRSC recent evaluation of iBiquity Corporation's FM IBOC system. I am the Corporate Chief Engineer for Pamal Broadcasting, owner of 19 FM radio stations in 6 medium markets in New York, Vermont and Florida.

Comments sought in the above referenced proceeding are to address the 10 tentative selection criteria for DAB systems: 1) enhanced audio fidelity; 2) robustness to interference and other signal impairments; 3) compatibility with existing analog service; 4) spectrum efficiency; 5) flexibility; 6) auxiliary capability; 7) extensibility; 8) accommodation for existing broadcasters; 9) coverage; and 10) implementation costs/affordability of equipment. One issue that is not addressed in all this is timing. I will address the issues that I feel qualified to comment on.

1) Enhanced audio fidelity. Without a doubt, iBiquity's IBOC system offers enhanced audio quality as tested by the NRSC. This quality comes from greater frequency response, as well as better multipath performance, and better stereo separation characteristics. It should be noted that these test were performed using MPEG-2AAC data reduction. iBiquity is planning to market their IBOC system with a proprietary audio coding called PAC, which has not been fully evaluated. Perceptual Audio Coding can greatly impact the fidelity of certain program material and must be used carefully. In addition to that, many radio stations are using satellite services to receive program material on; these satellite providers often use MPEG-3 data reduction. Therefore PAC must be fully evaluated and deemed to be compatible with other perceptual audio coding systems prior to being marketed.

2) Robustness to interference and other signal impairments. Again, the iBiquity IBOC system shows great improvements over FM analog stereo. As noted above, instances of multipath interference are greatly diminished. In addition to that, the NRSC test shows

that IBOC offers greater protection against co-channel and adjacent channel interference. Often times this is a function of receiver selectivity and sensitivity. Whether or not the production model receivers will have the same characteristics as the field test units is difficult to determine.

3) Compatibility with existing analog service. The NRSC tests show that there will be some impairment to the analog FM service. It would seem that this would be most noted in the fringe area of the first adjacent channel. This introduction of digital white noise under this signal is likely to lead to some loss of non-protected coverage area (outside of the FCC 60 dBu 50/50 curve) for the first adjacent channel. This will also impact a subcarrier service on a first adjacent channel. In all likelihood this interference will not create undue hardship on the first adjacent channel station, unless that station is attempting to penetrate a market beyond their protected contour. I feel that this situation can be reduced by reducing the amount of time required for stations to broadcast in both the digital and analog mode.

4) Spectrum efficiency. The iBiquity IBOC system will fit with the 200 kHz per channel bandwidth the FCC currently uses with space left over. Unless the FCC decides to reduce the channel spacing and restructure the FM band, the excess bandwidth can be allocated to auxiliary data services that are similar to the current SCA's in use today. These auxiliary data channels can be used by the station, or leased to outside users. If a band restructuring were to take place, it could not happen until all FM stations were broadcasting in digital, which will likely be some years away.

5) Flexibility. No comment

6) Auxiliary capability. See above.

7) Extensibility. No comment

8) Accommodation for existing broadcasters. Since this is an IBOC system, existing broadcasters can be issued facilities commensurate with their current analog systems.

9) Coverage. See above

10) Implementation costs/affordability of equipment. IBOC gives the broadcaster a chance for a rapid roll out, most of the infrastructure is in place to broadcast on our current frequencies, and the burden on current broadcasters should not be that difficult provided the equipment needed is sold in a competitive market place.

As for the issue of timing, this is where we need to get on the ball. I attended a meeting of the Pennsylvania Association of Broadcasters (PAB) a few years back where a presentation was made by USADR, the predecessor of iBiquity. The presenter spoke of a digital sunrise and an analog sunset, with the two formats running concurrently for a period of about ten years. With the advent of XM and Sirius satellite radio, I think the digital sunrise has already occurred, with the current broadcasters being left in the dark.

The early sales success of XM radio shows that consumers will spend a few extra dollars to receive a higher quality product. In order to remain competitive against such companies, broadcasters need to have the opportunity to improve the quality of their product. IBOC offers us a chance to do this with minimal impact to consumers and broadcasters alike. A gradual phase in period of 3-5 years will allow listeners to purchase new, digital compatible radios. Re-using the current FM broadcast spectrum will simplify implementation and allow broadcasters to re-use most of their current facilities.

Whichever way the FCC decides to go with DAB, I hope they move forward with some sense of urgency.

Sincerely

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